

EPA General Permit WAG130000 - Annual Report



Annual Report of Operations
for Year 2016

**To comply with NPDES General Permit No. WAG130000 for Federal
Aquaculture Facilities and Aquaculture Facilities Located in Indian
Country within the Boundaries of the State of Washington**

NPDES # for your Facility:

WAG - 130023

Facility & Owner Information

Facility Name:

House of Salmon

Operator Name (Permittee):

Lower Elwha Klallam Tribe

Address:

700 Stratton Road
Port Angeles WA 98363

Email:

john.mahan@elwha.org

Phone:

360-565-7270

Owner Name (if different from operator):

Email:

Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ☒ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ☒ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.
Extraneous text was removed. Temperature monitoring was added.

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Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): **30,614 lbs**
Pounds of food fed to fish during the maximum month:

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/Spawned
Chum	278 lbs	Elwha River	May
Pink	63 lbs	Elwha River	March
Steelhead	16,929 lbs	Elwha River	March/April
Coho	13,344 lbs	Elwha River	March/April

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	25919.63	4242.35	July	8244.16	1447.56
February	32461.61	4586.81	August	10816.33	1425.00
March	34980.8	2759.00	September	10362.11	1544.49
April	5223.16	932.79	October	13138.56	1764.85
May	6553.54	912.26	November	14077.38	2106.39
June	7067.84	1218.28	December	16734.39	3184.00

Additional Comments:

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Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed

Additional Comments:
Routine fish mortalities were disposed of daily in municipal waste.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week).
Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:
No mass mortalities occurred.

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Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

There were no noncompliance events.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily		The facility is inspected daily

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Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Azithromycin no
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Chloramine-T: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Chlorine
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Draxxin
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - injectable
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - medicated feed
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Florfenicol (Aquaflor)
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Formalin - 37% formaldehyde: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Herbicide - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hormone - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydrogen Peroxide: <i>See additional reporting requirements on page 7</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Iodine: <i>See additional reporting requirements on page 7</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Oxytetracycline
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potassium Permanganate: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Romet
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SLICE (emamectin benzoate)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sodium Chloride - salt
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Vibrio vaccine
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:

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Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Parasite-S (formalin)		Generic Name:	
Reason for use: Fungal Control			
<input checked="" type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): max of 49.4 L	Total quantity of formulated product used in past year (specify units): 294.9 gal	
Date(s) of treatment: See formalin use dates attached			Total number of treatments in past year: 45
Maximum daily volume of treated water: 222960	Treatment concentration (specify units): 50 ppm	Duration and frequency of treatment(s): 4 hours various frequencies	
Method of application: <div> <input type="checkbox"/> Static Bath <input checked="" type="checkbox"/> Flow-through <input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe): </div>			
Location in facility chemical was used (check all that apply): <div> <input checked="" type="checkbox"/> Raceways <input checked="" type="checkbox"/> Incubation building <input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe): </div>			
Where did water treated with this chemical go? (check all that apply): <div> <input checked="" type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin <input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <input type="checkbox"/> Other (describe): </div>			
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			
Brand Name: Ovadine (iodophor)		Generic Name:	
Reason for use: egg disinfection			
<input checked="" type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment: 75 ml	Total quantity of formulated product used in past year (specify units): 3.35 gallons	
Date(s) of treatment: See ovadine treatment dates attached			Total number of treatments in past year: 25
Maximum daily volume of treated water: 98 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 1 hour once	
Method of application: <div> <input checked="" type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through <input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe): </div>			
Location in facility chemical was used (check all that apply): <div> <input type="checkbox"/> Raceways <input checked="" type="checkbox"/> Incubation building <input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe): </div>			
Where did water treated with this chemical go? (check all that apply): <div> <input checked="" type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin <input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <input type="checkbox"/> Other (describe): </div>			
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

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Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: <u>Aquaflor (Florfenicol)</u>		Generic Name:	
Reason for use: <u>Treatment of Goldwater Disease</u>			
<input type="checkbox"/> Preventative/Prophylactic <input checked="" type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): <u>430 lbs max</u>	Total quantity of formulated product used in past year (specify units): <u>537.34 lbs</u>	
Date(s) of treatment: <u>2-9-16</u> <u>2-23-16</u> <u>10-8-16</u> } <u>10 days/treatment</u>			Total number of treatments in past year: <u>3</u>
Maximum daily volume of treated water: <u>NA</u>	Treatment concentration (specify units): <u>15 mg/Kg BWD</u>	Duration and frequency of treatment(s): <u>3 in 2016 10 days each</u>	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input checked="" type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input checked="" type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input type="checkbox"/> Other (describe):
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input type="checkbox"/> Other (describe): <u>NA</u>
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			
Brand Name: <u>TM-200 (Oxy tet.)</u>		Generic Name:	
Reason for use: <u>to treat Bacterial Kidney Disease</u>			
<input type="checkbox"/> Preventative/Prophylactic <input checked="" type="checkbox"/> As-needed	Total quantity of formulated product per treatment: <u>66.0 lbs, 74.8 lbs</u>	Total quantity of formulated product used in past year (specify units): <u>140.8 lbs</u>	
Date(s) of treatment: <u>10-28-16</u> <u>11-17-16</u> } <u>10 days each</u>			Total number of treatments in past year: <u>2</u>
Maximum daily volume of treated water: <u>NA</u>	Treatment concentration (specify units): <u>3.75 g/100 lbs FW</u>	Duration and frequency of treatment(s): <u>2 10 day treatments</u>	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input checked="" type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input checked="" type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input type="checkbox"/> Other (describe):
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input type="checkbox"/> Other (describe): <u>NA</u>
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

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Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: <u>Draxxin - 100</u>		Generic Name:	
Reason for use: <u>to prevent Bacterial Kidney Disease transmission</u>			
<input checked="" type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): <u>.25 ml/fish</u>	Total quantity of formulated product used in past year (specify units): <u>77.65 ml</u>	
Date(s) of treatment: <u>3-18-16, 10-3-16, 10-10-16, 10-18-16, 10-25-16</u> <u>11-1-16,</u>			Total number of treatments in past year: <u>6</u>
Maximum daily volume of treated water: <u>NA</u>	Treatment concentration (specify units): <u>5 mg/kg fish</u>	Duration and frequency of treatment(s): <u>1 time per month</u>	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe): <u>injection</u>	
Location in facility chemical was used (check all that apply):	<input checked="" type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input checked="" type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe):	
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <u>NA</u> <input type="checkbox"/> Other (describe):	
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			
Brand Name:		Generic Name:	
Reason for use:			
<input type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin <input type="checkbox"/> Other (describe):	
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works <input type="checkbox"/> Other (describe):	
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

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Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments <i>Iodo-phor</i>		
Tank Volume	371	Liters
Desired Static Bath Treatment Concentration	75 ppm	µg/L
Volume of Product Needed	2.78	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: .087 ppm Active Ingredient: .0087 ppm	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	13,651,571 gallons	Specify Units
Maximum % of Facility Discharge Treated	.002718	% of Total Discharge

Flow-Through Treatments <i>Formalin</i>		
Tank Volume	126,328	Liters
Calculated Flow Rate	3,516.27	Liters/Minute
Duration of Treatment	240	Minutes
Desired Flow-Through Treatment Concentration of Product	50	µg/L
Amount of Product to Add Initially	0	Liters Product
Amount of Product to Add During Treatment	175.8	mL/Minute
Total Volume of Product Needed	42.2	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: .274 ppm Active Ingredient: .101 ppm	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	4,132,800 gallons/day	Specify Units
Maximum % of Facility Discharge Treated	5.39	% of Total Discharge

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Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.

A bypass was installed between the hatchery water supply line and the hatchery effluent pipe to allow surface water to exit the facility without entering rearing units.

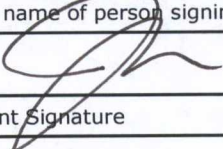
An effluent pipe from the indoor rearing troughs was connected to the pollution abatement pond to allow trough cleaning directly into the pollution abatement pond.

Well 5 was decommissioned and replaced with a new well located opposite the river side of the levee.

The chiller supply was plumbed to the groundwater supply.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Mahan	Hatchery Manager
Printed name of person signing	Title
	1-17-17
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191
Washington Hatchery Annual Report
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

2016 iodophor max concentration

	Number Spawn Days	Number of Incs Green Eggs
Steelhead	15	50
Coho	7	102
Chum	3	17
Total	25	169

3.785

ml/inc

75

total iodophor

12675 ml

12.675 L

3.348745 gallons

Max discharge

10/26/2016

ml iodophor/inc

#incs discharging at once

75

7

525 ml

804,616.00000000 gallons in the system

0.07018717 gallons iodophore

1 to
ppm

11,463,862.24761900

0.08723064

10 % iodine

0.00872306 max concentration iodine

done 1/12/17

Chemical and Drug Use at the Lower Elwha Fish Hatchery

NPDES Annual Report

Year: 2016

WAG 13 0023

Maximum discharge Calculations

Date: 4/12/2016

Species: Steelhead

Brood Year: 2011 (captive brood)

Diagnosis/Treatment: Fungus

Drug/Chemical: formalin

Treatment Protocols

Treatment Unit type: Raceways

Total Units: 2

Treatment Time (hours): 4

System volume	Unit	# in use	Unit Volume		
			(Ft ³)	Ft ³	Gallons
	Pumping Vault	1	5,964	5,964	44,611
	Ponds	0	22,692	0	0
	Raceways	2	2,880	5,760	43,085
	Small troughs		199	0	0
	Large troughs		300	0	0
	Brood Pond	1	10,837	10,837	81,061

System Volume (gallons) 168,756

Ground Water Input (GPM) 2870

Surface Water Input (GPM) 0

Influent flow (GPM) 2,870

Dillution factor

59

reported as system
volume/influent

Treatment volumes

Units treated 2

flow/unit (GPM) 465 GPM

Treated flow 929 GPM

Treatment duration (hours) 4.00 hours

Treatment duration (min) 240 min

Treated volume 222,960 gallons

Untreated flow 1,941 GPM

Untreated volume 465,840 gallons

total volume 688,800 gallons

Daily chemical/drug quantity

Treatment rate (ppm) 50 ppm

volume 168,756 gallons

Formalin (gal)/treatment 11.148 gallons

Formalin (ml)/treatment 42,195 milliliters

Treatment flow (ml/min) 88 ml/min

Flow dillution

ppm 16.12 (ml formalin/total volume*0.0038)

Volume dillution

ppm 0.27416 Flow dillution ppm/Volume dillution factor

Final Hatchery Effluent Concentration:

0.27416 ppm

2016

Formalin use dates

Iodophor use dates

1/4/2016	3/15/2016
3/18/2016	3/23/2016
3/21/2016	3/30/2016
3/24/2016	4/6/2016
3/28/2016	4/13/2016
3/31/2016	4/20/2016
4/4/2016	4/27/2016
4/8/2016	5/3/2016
4/12/2016	5/11/2016
4/14/2016	5/12/2016
4/18/2016	5/18/2016
4/18/2016	5/25/2016
4/21/2016	6/1/2016
4/26/2016	6/7/2016
4/27/2016	6/15/2016
4/28/2016	10/19/2016
4/29/2016	10/26/2016
5/3/2016	11/2/2016
5/4/2016	11/9/2016
5/5/2016	11/16/2016
5/6/2016	11/23/2016
5/10/2016	11/30/2016
5/11/2016	
5/13/2016	
5/16/2016	
5/17/2016	
5/20/2016	
5/23/2016	
5/24/2016	
5/25/2016	
5/26/2016	
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6/20/2016	